

IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Xiao-An Zhang

Confirmation No.:

Application No.:

Examiner:

Filing Date:

Group Art Unit:

Title: Controllable Organiced 3-D Molecular Assembly and Its Applications for Molecular Display and Moletronics

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or  
(Within three months of filing national application; or date of entry of national application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:  
☐ Statement under 37 CFR 1.97(e), or  
☐ a \$180.00 fee under 37 CFR 1.17(p), or  
(After the CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97 (d) together with a:  
☐ Statement under 37 CFR 1.97(e)(1) or (2), and  
☐ a \$180.00 fee set forth in 37 CFR 1.17(p).  
(Filed after final action, a notice of allowance, on or before payment of the issue fee)

Please charge to Deposit Account **08-2025** the sum of \$0.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **08-2025** pursuant to 37 CFR 1.25.

☒ Applicant(s) submit herewith Form PTO 1449 - Information Disclosure Citation together with copies, of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

☐ A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individuals(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

"Express Mail" label no. EV 34947690

Date of Deposit July 7, 2003

I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, Alexandria, VA 22313-1450.

By

Myra Best Christeck

Typed Name: Myra Best Christeck

Respectfully submitted,

Xiao-An Zhang

By David W. Collins

David W. Collins

Attorney/Agent for Applicant(s)

Reg. No. 26,857

Date: July 7, 2003

**PATENT APPLICATION**

Sheet 1 of 1

<b>FORM PTO-1449</b>  <b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>  (Use several sheets if necessary)	ATTY. DOCKET NO. <b>200300074</b>	APPLICATION NO.	CONFIRMATION NO.
APPLICANT <b>Xiao-An Zhang</b>			
FILING DATE <b>Filed Herein</b>		GROUP	

**REFERENCE DESIGNATION                      U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A				
	1B				
	1C				
	1D				
	1E				
	1F				
	1G				
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	1I				
	1J				
	1K				

**FOREIGN PATENT DOCUMENTS**

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	1L					
	1M					
	1N					
	1O					
	1P					

**OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)**

	1Q	Maki-Ontto, Rikka, "Flow and Conductivity Properties of Comb-Shaped Self-Organized Supramolecules," Dissertation, Helsinki University of Technology, Presented 23 November 2001, 36 pp. <span style="float:right">✓</span>
	1R	Chambron, Jean-Claude, et al., "Rotaxanes and Other Transition Metal-Assembled Porphyrin Arrays for Long-Range Photoinduced Charge Separation", Coordination Chemistry Reviews, Vols. 178-180, 1998, pp. 1299-1312. <span style="float:right">✓</span>
	1S	Lehn, Jean-Marie, "Supramolecular Chemistry-Scope and Perspectives Molecules-Super molecules-Molecular Devices", Nobel Lecture, Paris, 8 December 1987. <span style="float:right">✓</span>

EXAMINER

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	2L					
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## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

2Q	Aviram, Arie and Mark A. Ratner, "Molecular Rectifiers", Chemical Physics Letters, Vol. 29, No. 2, 15 November 1974, pp. 277-283.
2R	Lehn, Jean-Marie, Design of Organic Complexing Agents, Strategies Towards Properties, Institut de Chimie, Universite Louis Pasteur, Strasbourg, France, pp. 1-69.
2S	Keuhl, Christopher J., et al., "Self-Assembly of Molecular Prisms via an Organometallic 'Clip'", Organic Letters, Vol. 4, No. 6, pp. 913-915.

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FORM PTO-1449

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	3L					
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	3N					
	3O					
	3P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

✓	3Q	Seto, Christopher T., et al., "Molecular Self-Assembly Through Hydrogen Bonding: Aggregation of Five Molecules to Form a Discrete Supramolecular Structure", Journal of American Chemical Society, Vol. 115, 1993, pp. 1321-1329.
✓	3R	Jeong, Kyu-Sung, et al., "Assembly and Binding Properties of Osmate Ester-Bridged Binuclear Macrocycles", Journal of Organic Chemistry, Vol. 64, 1999, pp. 9459-9466.
	3S	

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